



Illinois Department of Transportation

Memorandum

To: DIRECTORS, DEPUTY DIRECTORS, AND BUREAU CHIEFS
From: Dianna L. Taylor
Bureau Chief of Personnel Management
Subject: Technical Vacancy
Date: August 30, 2016

Attached are the Position Summary Sheet and Position Description for the vacant technical position listed below. Please post this vacancy announcement August 31, 2016 in the designated areas.

The deadline for applicants to submit their names for consideration is **4:30 p.m.** on **Wednesday, September 14, 2016**. Applicants will not be accepted after that time and date.

NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are received, the applications may be screened to establish a smaller pool of applicants for interview. The screening will be based on the information contained in the application.

All applicants will receive a position description for the position they are applying for. If you have any questions, please contact Jennifer Sunderland or Denise Hamilton at 217/782-5594.

CE V

Geometrics Engineer
Region 2/District 2/Program Development
Highways Project Implementation
Dixon

Attachments
41192

Technical Applications (PM 1080) **must be received** by the Bureau of Personnel Management, Room 113, 2300 South Dirksen Parkway, Springfield, IL 62764 (Fax# 217/557-3134) or emailed to DOT.CO.BPM.EmploymentApplications@Illinois.gov by **Thursday, September 14, 2016, 4:30 p.m.** Please include address, daytime phone and position for which applying if not already listed on application. Applicants will be notified in writing to schedule interviews.

NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are received, the applications may be screened to establish a smaller pool of applicants for interview. The screening will be based on the information contained in the application.



Illinois Department of Transportation

An Equal Opportunity Employer

Position Summary Sheet

Classification: Civil Engineer V

Salary Range: \$6,315 - \$10,210

Position Title: Geometrics Engineer

Union Position: ☒ Yes ☐ No

Position Number: PW115-23-52-303-20-01

IPR#: 41192

Office/Central Bureau/District/Work Address:

Office of Highways Project Implementation/Region 2/District 2/Bureau of Program Development/819 Depot Avenue, Dixon, IL

Description Of Duties:

This position is accountable for the interpretation of policies and procedures which govern the geometric design, capacity analysis, and access control limits of highways. Specifically, these items are directly related to the design of intersections, interchanges, rest areas, weigh stations, and highway alignments. This position is also responsible for the development of highway route location and design studies during peak workloads.

Special Qualifications:

Required:

- A Current Illinois Professional Engineer license

Desired:

- Nine years of experience in civil engineering of which at least five years should be in the specific area of highway engineering, three years of which should have been supervising engineering functions
- Extensive knowledge of the principles and practices of civil engineering
- Ability to develop and maintain cooperative relationships with departmental staff
- Strong oral and/or written communication skills

Shift/Remarks:

8:00 am – 4:30 pm / Monday – Friday

***THIS POSITION IS COVERED UNDER THE REVOLVING DOOR PROHIBITION (RDP) POLICY.**

**ILLINOIS DEPARTMENT OF TRANSPORTATION
POSITION DESCRIPTION**

| | | | |
|---------------------|-----------------------|-------------------------|----------------------------------|
| DATE: | June 29, 2016 | POSITION: | Geometrics Engineer |
| APPROVED BY: | <i>Kevin Marchek</i> | OFFICE/DIVISION: | District 2 - Program Development |
| CODE: | PW115-23-52-303-20-01 | REPORTS TO: | Studies and Plans Engineer |

Position Purpose

This position is accountable for the interpretation of policies and procedures which govern the geometric design, capacity analysis, and access control limits of highways. Specifically, these items are directly related to the design of intersections, interchanges, rest areas, weigh stations, and highway alignments. This position is also responsible for the development of highway route location and design studies during peak workloads.

Dimensions

| | |
|------------------------|---|
| Subordinate Personnel: | Direct - 4; Seasonal - 2 |
| Annual Programs: | Intersections: 50 - 60 Interchanges: 5 - 10 Special Geometric/Capacity Studies: 10 - 20 |
| Project Value: | \$20 - \$200 Million |

Nature and Scope

This position reports to the Studies and Plans Engineer, as do the Project Engineers, Bridge and Hydraulics Engineer, Environmental Studies Unit Chief, an Executive Secretary, and an Office Specialist. Reporting to this position are an Assistant Geometrics Engineer, a Geometrics Technician, a Senior Geometrics Drafter, and a Geometrics Drafter.

This position is accountable for the development of intersection geometrics that conform to State policy and for recommending to the Central Office any design exceptions to policy. He/She is required to create designs which are cost-effective and often unique using sound principles of value engineering. The incumbent determines if Central Office concurrence of geometrics is required prior to inclusion in a pre-hearing design report for presentation to the public at an Informational Meeting and/or Public Hearing. He/She approves those designs which are developed in accordance with policy. This position is also responsible for the review/approval of private and/or commercial development plans to ensure that acceptable levels of operation and safety potential are maintained on state/local systems.

Typical problems include continuing evaluations of new and innovative policies/procedures, the resolution of implementation problems, the interpretation of policy/procedures, and the resolution of problems associated with proposed designs by District bureaus, county and municipal governments, and consultants. The greatest challenge to this position is the application of technical knowledge coupled with keen insight to develop geometric configurations which are appropriate and create an efficient and cost/safety-effective highway improvement with minimal adverse social and environmental impacts.

This position is accountable for developing geometric highway designs; analyzing traffic volumes; proposing access control limits; determining pavement/shoulder/median, and right-of-way widths; designing horizontal/vertical alignments/ deciding earth slopes, design speeds, sight distance, and super elevation; and performing capacity analysis for intersections and interchanges. He/She provides advice and the guidance to consultants and county and municipal engineers during their preparation of geometric designs, capacity analysis, cross-section, alignment, and slope designs. This position reviews and concurs with geometric designs prepared by other District bureaus, consultants, and counties/municipalities, including those prepared after construction

contracts have been awarded. The incumbent approves those designs which conform to policy. Those that do not conform to policy are approved by the Central Office. Functions performed by this position are highly innovative and have specific objectives of fiscal restraints, cost-effectiveness, and safety. This position establishes procedures for the development of feasible alternative improvements and evaluation techniques for the priority selection of such alternate types in terms of cost/safety-effectiveness and mitigation of impact. He/She reviews and/or recommends appropriate accident countermeasures for safety projects to the Safety Committee for inclusion in the annual program. The incumbent must maintain a state-of-the-art knowledge of appropriate state/federal/local policies and evaluates pertinent research with a view toward improving current practices. He/She develops procedures for the implementation of cited policies and cost-effectiveness analysis of resulting improvements. This position maintains all pertinent policy and procedural information regarding geometric design. The incumbent directs route location and design studies during peak workloads.

Responsibilities are accomplished with the assistance of:

Assistant Geometrics Engineer and Geometrics Technician(s) who are responsible for preparing geometric and/or traffic designs according to established policies and standards.

The incumbent exercises considerable latitude in performing the duties of this position. Decisions are based on state/federal policies and experience which incorporate innovation, field observations, educational seminars, and current literature. Certification by the Central Bureau of Design and Environment allows this position to approve (without Central Office concurrence) intersection design studies. The incumbent recommends for approval to the section chief design solutions for resolving conflicting situations and highly technical problems dealing with interchange and intersection designs.

Internal contacts include the District Bureau Chiefs of: Local Roads and Streets, Program Development, and Operations; District staff; and the Central Bureau of Design and Environment. External contacts include consultants, local governmental entities, and the general public.

The effectiveness of this position is measured according to the accurate and timely completion of assigned tasks. In addition, it can be measured by the increase in the safety and mobility afforded the motoring public by the effective use of available funds with the least adverse social and environmental consequences.

Principal Accountabilities

1. Develops geometric designs and determines if Central Office review of geometrics is required prior to a public hearing or information meeting. Approves policy consistent designs.
2. Reviews and concurs with geometric designs on state highways which have been prepared by consultants, counties, municipalities, and other District bureaus. Approves policy consistent designs.
3. Reviews and/or prepares safety projects prior to submission to Safety Committee for inclusion in program. Approves policy consistent designs.
4. Reviews and accepts geometric revisions prepared after construction contracts have been awarded. Approves policy consistent designs.
5. Directs route location and design studies during peak workloads.
6. Trains, motivates, and evaluates staff.
7. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.
8. Performs other duties as required.